

IV. *On a new genus and some new species of Coleoptera, belonging to the family Lucanidæ.* By CHARLES O. WATERHOUSE.

[Read 1st March, 1869.]

I WISH to bring before the Entomological Society's notice this evening, four species of *Coleoptera*, belonging to the family *Lucanidæ*, which I believe to be as yet undescribed.

One of these, although by no means the most remarkable at first sight, possesses such peculiarities as to make it necessary to form a new genus for its reception.

This insect, which is from Northern India (I believe from the Cashmere district, although I have no precise locality) is entirely dullish black, and its general appearance led me at first to seek its place near *Dorcus*, but finding it differently constructed, I next referred it to and left it in the genus *Cladognathus*. Upon further examination, however, I find that the mentum is unlike that of any other species of *Lucanidæ* that I have examined; the eye is moreover entirely divided by the canthus, a character quite strange to *Cladognathus* and to the other genera with which it could possibly be associated; the produced portion of the prosternum between the coxæ is very narrow and grooved, a character, I believe, without a parallel in the *Lucanidæ*; and finally, the posterior tibiæ are much enlarged at the apex, which is only to be found in the genus *Lucanus*, and even there, the enlargement does not, except in the females, exist to such an extent as in the insect now in question. I therefore propose to make a new genus of it, and to call it *Aulacostethus*, which may be briefly characterized as follows:—

AULACOSTETHUS, gen. nov.

Mentum broader than long, bowed in front, with the posterior angles rounded; *eyes* entirely divided by the canthus, which is slender; *prosternum* between the anterior coxæ narrow, with parallel sides, longitudinally canaliculate; the four posterior *tibiæ* much enlarged at the apex, each furnished on the outside in the middle with a small tooth; *tarsi* somewhat short, the basal four joints of each furnished beneath at the extreme apex with two pencils of fine bristles.

Aulacostethus Archeri, sp. nov. (Pl. III. fig. 1).

♂. Niger, sub-opacus; mandibulis elongatis, intus bidentatis; capite subquadrato, depresso, antice contracto, fronte excavata, lateribus fortiter rugoso-punctatis; oculis omnino a cantho divisus; thorace transverso, lateribus sub-rectis, angulis posticis oblique truncatis, marginibus anterioribus et posterioribus elytrorumque basi rugoso-punctatis; tibiis anticis apicibus fortiter bidentatis, et extus denticulis quatuor armatis; tibiis posticis extus in medio unidentatis, apicibus singulariter ampliatis; prosterno longitudinaliter carinato.

Long. (mandibulis exclusis) $17\frac{1}{2}$ lin. (37 mill.); mandib. $7\frac{1}{2}$ lin. (16 mill.).

Black, somewhat dull. *Head* flattened, one quarter as broad again as long, slightly narrowed towards the front to the insertion of the antennæ, then suddenly contracted, forehead excavated, projecting over the clypeus, which is transverse and gently emarginate; the head is contracted posteriorly to be received into the thorax, the posterior margin and the portions over the base of the mandibles shining, the rest of the surface rendered dull by extremely fine granulations, on the disc there are a few larger punctures, and towards the sides and the parts about the eyes punctured, a patch reaching from the eyes almost to the posterior angles of the head, very rugosely punctured. Mandibles about equal in length to the head and thorax together, very gently curved, with a large blunt tooth springing from the upper surface, distant from the base about one third the length of the mandible, another smaller tooth, also springing from the upper surface, being situate near the apex of the mandible, gives it the appearance of being bifid. *Mentum* twice and a half as broad as long, slightly convex, with the basal portion in the middle depressed; rounded in front, the posterior angles rounded, slightly overlapping the submentum, the whole surface coarsely transversely reticulate. The 8th, 9th, and 10th joints of the antennæ forming the club, the 8th joint half spongy, the 9th and 10th entirely so. *Thorax* twice as broad as long, posterior angles obliquely truncate in front, bis-emarginate; sides rounded at the anterior angles, gently contracted posteriorly, and again projecting at the truncature of the angles, posterior

margin almost straight, the disc somewhat shining, towards the sides the surface is rendered dull by extremely fine granulations, anterior border strongly margined, and with the margin towards the sides rugosely punctured; side and posterior margins incrassate, the sides of the thorax sparingly but distinctly punctured, the posterior margins rugosely punctured. *Scutellum* broader than long, with the apex rounded, with a few small punctures. *Elytra* semi-opaque, broadest at the basal quarter, then gradually contracting to the apex, the extreme base rugosely punctured, the whole surface, except the suture and near the scutellum, thickly covered with very minute granules, an indistinct smooth line reaches from the shoulder nearly to the apex. Anterior *tibiæ* distinctly punctured, the punctures inclined to form longitudinal rows, the apex of the *tibiæ* is produced beyond the insertion of the tarsus to the third joint, the produced part turned outwards, bifurcate; the outer edge of the *tibiæ* armed with four small teeth, the basal one very small; the four posterior *tibiæ* coarsely punctured, much enlarged at the apex, which is terminated by three strong teeth;* each tibia armed with a small sharp tooth on the outside near the middle. *Tarsi* somewhat short, the basal four joints of each furnished beneath at the extreme edge with two pencils of fine fulvous bristles. *Prosternum* between the anterior *coxæ* narrow, parallel, deeply longitudinally grooved.

Hab.—N. India. In the British Museum.

The British Museum is indebted to S. Archer, Esq., Assistant Surgeon, H. M. 98th Regiment, for this and some other interesting Indian *Coleoptera*. It is possible that the species above described may be known to some by the MS. name *Cladognathus Batesii*. †

The next insect I have to mention is a species of *Cladognathus* closely resembling *inclinatus* of Motschulsky, from which it may be distinguished by its slightly greater

* One of the posterior *tibiæ* has four teeth, the central one of the usual three being divided.

† [This is doubtless the insect which in vol. iii. (dated 1868) of Gemminger and Von Harold's "Catalogus Coleopterorum hucusque descriptorum" is cited as "*Cladognathus Batesi*, Parry, Trans. Ent. Soc., 1869." The reference by anticipation to this volume has shared the common fate of prophetic utterances.—*Sec. Ent. Soc.*]

convexity and shining appearance; the mandibles have only two distinct teeth; the forehead is not furnished with a horizontal lamina, and the head behind the eyes is simply inflated and not triangularly produced. The exact locality of the specimen from which I have drawn up my description is not known; it is either Japan or the Indian Archipelago. The specimen is lent me by Major Parry, who brought it me for description with the MS. name *C. Motschulskii*.

Cladognathus Motschulskii (Parry), sp. nov.

Elongatus, subdepressus, punctatissimus, subnitidus, nigro-castaneus; capite subquadrato, postice angulis nullis, fronte excavata, angulis ante oculos prominulis; clypeo concavo, quadrato, lateribus parallelis, angulis anticis oblique truncatis, apice emarginato; mandibulis elytrorum longitudine vix brevioribus, inclinatis, intus dentibus duobus majoribus et 2-3 parvis armatis; thorace capite latiore, transverso, convexiore, lateribus vix rotundatis; elytris angulis humeralibus obtusis; tibiis anticis quatuor spinulosis, mediis unispinosis, posticis inermibus; prosterno postice vix compresso.

Long. (mandib. exclusis) $16\frac{3}{4}$ lin. (35 mill.); mandib. 8 lin. (17 mill.).

This species very much resembles in general form and colour the *C. inclinatus* of Motschulsky (Etudes Ent. pt. 10, 1861, p. 13). The mandibles, however, are less deflexed, and are furnished with two larger teeth, one rather below the middle, and another near the apex; between these there are indications of two or three small teeth, and between the second and the apex there are two small teeth. The forehead is more deeply excavated, and is not provided with a horizontal lamina between the mandibles as in *C. inclinatus*; the clypeus has the sides straight, the front margin formed of two lines which would meet at an obtuse angle, if the vertex were not slightly emarginate. The sides of the head behind the eyes are nearly straight, the posterior angles completely rounded. The head is less depressed, the surface is more finely granular, the disc being slightly impressed and

smooth. The thorax is slightly more convex, the sides are rather less parallel, but scarcely rounded; the surface is more finely granulose, the disc being almost smooth, sparingly punctured with distinct punctures. The elytra are smoother, and the specimen before me has the humeral angles obtuse. The tibiæ are shorter and stouter, the anterior tibiæ, besides the usual bifurcate apex, are furnished with one distinct tooth only near the apex. The apex of the posterior tibiæ is enlarged above. The prosternum, which is produced behind the anterior coxæ, although slightly compressed, is not lamelliform as in *C. inclinatus*.

Hab.—Japan? or Indian Archipelago. In Major Parry's Collection.

The next insect is another species of *Cladognathus*, closely allied to *C. Maclellandi*, with the type specimen of which Major Parry (who called my attention to this also) compared his examples, and considers them to be distinct. There are two specimens (♂ and ♀) in the National Collection, and I have drawn up my description from them. I may mention that Major Parry received this insect with the name *C. Maclellandi*; he proposes the name of *impressus* for it.

Cladognathus impressus (Parry), sp. nov.

♂. (var. minor?). Rufo-castaneus, nigrescens, parum convexus, nitidus; capite transverso, subtiliter granuloso, punctis sparsis intermixtis, ante oculos parum triangulariter producto, pone oculos rotundato, fossa inter mandibula et oculos impresso; fronte leniter concava; clypeo hexagono. Thorace transverso, subtilissime granuloso, punctis parvis et sparsis intermixtis, disco sublævi, angulis posticis oblique truncatis, angulo a truncatione et latere formato producto. Elytris rufo-castaneis, sutura et circum scutellum nigrescentibus, dense punctatis, arcuatim attenuatis, basi thorace angustiori. Tibiis anticis apice bifurcatis, extus subserratis, dentibus parvis 5-6 armatis; posterioribus quatuor extus in medio dente parvo armatis; tarsis fuscis.

Long. (mandib. exclusis) $9\frac{1}{4}$ lin. ($19\frac{1}{2}$ mill.); mandib. $1\frac{1}{2}$ lin. (3 mill.); lat. $4\frac{1}{5}$ lin. ($8\frac{3}{4}$ mill.).

♀. Angustior; mandibulis brevibus, intus unidentatis; capite fortiter denseque punctato, vertice lævi, inter oculos et mandibula elevatione parva lævi, ante oculos contracto, antice truncato; clypeo parvo, transverso, angulis rotundatis; thorace disco fortiter et sparsim punctato, lateribus parallelis dense fortiterque punctatis, angulis posticis truncatis; elytris disco sparsim, latera versus dense punctulatis, lateribus apiceque fortiter punctatis; tibiis anticis punctatis, excurvatis, apicibus tridentatis, extus 1-2 denticulatis.

Long. (cum mandib.) 8 lin. (17 mill.); lat. $3\frac{1}{2}$ lin. ($7\frac{1}{2}$ mill.).

Hab.—India. In the British Museum.

The ♂ in the British Museum is from East India, the ♀ from North India.

The last insect I have to mention belongs to the genus *Chiasognathus*, and should, perhaps, have been mentioned first. The form of the mandibles, which, when viewed laterally, somewhat resemble a small greek τ , the granulation of the elytra, and yellow colour, and the curiously bowed middle tibiæ, will serve to distinguish the ♂, whilst the evenly rounded sides of the thorax will separate the ♀ from the other species of the genus.

Chiasognathus peruvianus, sp. nov. (Pl. III. figs. 2, 3).

♂. Æneus, fuscescens; mandibulis basi supra subtusque fortiter unidentatis, et apicibus intus denticulo armatis; capite, thorace, scutello, corpore toto subtus, femoribusque flavo-pubescentibus; elytris cupreis, purpureo-micantibus, sub-opacis; tibiis anticis æneis, basi flavis, incurvatis, apicibus bidentatis, intermediis valgis, flavis, extus unidentatis, posticis basi et in medio constrictis, flavis, apicibus fuscis, extus unidentulatis.

Long. (mandib. exclusis), 1 unc. (26 mill.); mandib. $3\frac{1}{2}$ lin. (8 mill.).

♀. Latior, mandibulis brevibus, basi extus obtuse dentatis; thorace lateribus fortiter rotundatis; elytris ænescentibus, rugulosis; tibiis anticis latis, extus quadridentatis, quatuor posticis rectis, extus fortius unidentatis.

Long. (cum mandib.) $13\frac{1}{2}$ lin. (28 mill.).

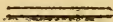
♂. Æneous, slightly tinged with coppery-brown.

Head transverse, with a transverse impression between the eyes; the portion of the head behind this impression, and that about the eyes, almost without punctures; the disc closely punctured; the sides of the head almost parallel, the anterior angles rectangular, anterior margin furnished above the base of each mandible with a tubercle, the portion between them, and on each side of them, emarginate. Mandibles deflexed, of equal length with the thorax, thickly punctured, somewhat straight, the apices acuminate, curved inwards; the extreme base of each mandible furnished above and below with a strong acuminate tooth, the upper one the larger, very little punctured, slightly sloping inwards; the inner blade of the mandible armed above with a small tooth near the apex. Maxillary palpi very long, the last joint one-third longer than the penultimate. *Thorax* convex, one-third broader than long, not broader in front than the head, but gradually increasing in width posteriorly, the hind angles much rounded. *Elytra* three-quarters as broad as long, somewhat dull, of a coppery-brown colour, faintly tinged with purple; the sides are sub-parallel, slightly constricted below the shoulders; the whole surface is slightly uneven, very thickly and finely granulose-punctate. The *femora* and the apical half of the anterior *tibiæ* are dark, shot with æneous and purple. The anterior *tibiæ* are elongate, slightly curved inwards, with two strong teeth on the outside at the apex, the basal half of these *tibiæ* yellow; middle and posterior *tibiæ* yellow, except at the apex, the former much curved, furnished on the outside near the apex with a small dark tooth; the posterior *tibiæ* nearly straight, constricted at the base and in the middle, furnished on the outside, near the apex, with a very small dark tooth. *Tarsi* long, fuscous.

The ♀ differs from the ♂ in being relatively broader; the mandibles are short, punctate, strongly triangularly

dilated on the outside at the base; the head is formed nearly as in the ♂, but with the sides less straight, the anterior angles slightly obtuse, the punctuation is thicker; the thorax is shorter, with the sides completely rounded, the disc is smooth, and the punctuation of the impression finer, the posterior part being finely punctured; the elytra are æneous, the surface is less even; the anterior tibiæ are shorter, broad, with the base fuscous, furnished on the outside with three strong teeth, and one or two smaller ones near the base; the four posterior tibiæ are straight, shorter and stouter, the external teeth being stronger.

Hab.—Peru. ♂ and ♀, in the British Museum.



Explanation of Plate III.



- Fig. 1. *Aulacostethus Archeri*; 1 a, mentum; 1 b, prosternum.
 2. *Chiasognathus peruvianus*, ♂.
 3. " " , ♀.
 3a. " " , side view of mandible of ♂.